



Assisted Reproductive Technologies: Comparing Abrahamic Monotheistic Religions

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Abstract

The impact of culture and religion on sexual and reproductive health and behavior has been a developing area of study in contemporary time. Therefore, it is crucial for people using reproductive procedures to understand the religious and theological perspectives on issues relating to reproductive health. This paper compares different perspectives of three Abrahamic faiths, i.e., Judaism, Christianity, and Islam on ARTs. Procreation, family formation, and childbirth within the context of marriage have all been advocated by these three major religions of the world. Judaism permits the use of all assisted reproductive technologies when the oocyte and sperm come from the husband and wife, respectively. The different denominations of Christianity have diverse views on reproductive practices. Although the Vatican does not approve of assisted reproduction, Protestant, Anglican, and other religious groups are free to use it. ARTs are acceptable in Sunni Islam, although they can only be carried out if the couples are married. Shia Islam, however, permits third-party donations to married couples under specific restrictions. This comparison reveals that while the three major world religions utilize assisted reproduction in distinct ways, there are also many comparable aspects of each religion.

Keywords In vitro fertilization · Religion · Gamete donation · Surrogacy · Sex selection · Assisted reproduction

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Introduction

Assisted reproductive technologies (ARTs) are now a popular medical treatment offered by doctors to infertile couples or even single men and women. Even though these technological and medical advancements have become a therapy for infertility and are often regarded as a miracle for infertile couples, it has been a contentious issue in religious and cultural traditions. The idea of a creator god, the natural way of life, marriage and lineage, and laws of inheritance has come into question because of the usage of ARTs in reproduction choices (Homburg et al. 2018). Religions across the globe have their positions on reproductive technologies. For example, in vitro fertilization (IVF) has become a debatable issue for religious traditions, in which each religion has developed its perspective, according to its foundation and beliefs. Judaism, Christianity, and Islam share many similarities in beliefs and doctrines; however, these religions do not share the same perspectives on ARTs. Islam focuses on the interaction between marriage laws and IVF, while Judaism and Christianity concentrate on the interaction between IVF and the natural order of life designed by God (Inhorn et al. 2017). In this study, we compare the varied approaches to applying ARTs in three Abrahamic faiths. This comparison shows that assisted reproduction is practiced differently by the three major religions, but there are also many similarities. This comparative analysis of three Abrahamic religious views on IVF demonstrates that religion plays a significant role in the societal acceptance and rejection of assisted reproductive technologies.

Assisted Reproduction in Judaism

Judaism is one of the Abrahamic monotheistic religions, dating back nearly 4000 years. There are around 14 million Jewish people in the world that representing 0.2% of the global population (Sallam and Sallam 2016). The Jewish people are also divided into three major denominations: Orthodox, Conservative, and Reformed Jews (Silber 2010). Judaism emphasizes bringing forth future members of the community and assuring the survival and continuity of the Jewish people (Connor et al. 2012). As the Jewish people have experienced a prolonged history of persecution including the Holocaust, thus, they have nationalist, political, and religious motivations to promote fertility. Jewish law influences Israeli civil law—the only Jewish state in the world. In Israel, laws derived from Judaism help in preparing a favorable environment for the prevalence and progress of ARTs. Jewish laws, interacting with civil laws, develop a careful conversance of methodological development. This functional collaboration of Civil law and Jewish law creates an impressive thriving ground in the field of assisted reproduction (Westreich 2016). Israel has the highest ratio of clinics providing ARTs to the population in the whole world. Almost 5% of babies born through ARTs are born in Israel (Chavkin 2006). Although ART is generally accepted in Judaism which

includes donations from third party as well as surrogacy, three major sects differ in their acceptance of various forms of ARTs (Inhorn 2005). The following sections discuss the major aspects of ARTs in Judaism.

The Jewish Response to IVF

The Jewish Religious tradition is very positive towards human fertility. Jewish attitude towards fertility can be discerned from the first commandment from God to Adam which declares “Be fruitful and multiply; fill the earth and subdue it” (Genesis 1:18). The Talmudic saying “Any man who has no child is considered a dead man” gives strong emphasis on the importance of reproduction in the Jewish tradition. Thus, the Jewish views on IVF are based on the Jewish scriptures (Homburg et al. 2018).

IVF is allowed if medical intervention is required for a married couple to have children. According to Jewish rules, the woman needs to be tested before her husband. Then, the man should be examined if the pathological condition is not found in the woman (Inhorn and Tremayne 2016). Artificial insemination by husband to impregnate the wife is allowed unanimously when any other way is unknown to achieve pregnancy. The couple should wait for natural pregnancy for at least 5 to 10 years. However, some Rabbis take a strict position against IVF as they think that biological and legal bondage are broken because of the retrieval of eggs. They also believe that medical involvement in the reproduction process can alter the child’s legal and biological status. Despite the doubts and worries, Jewish infants have been born through assisted reproductive technologies (ARTs) that include religious spouses (Schenker 2005).

Gamete Donation

There is no clear announcement from rabbinic authorities regarding controversial issues like whether it is allowed to use donor gametes for assisted reproduction. Many Orthodox Jews do not even think of engaging in detailed and syllogistic scrutiny regarding this matter and just assume that donor gametes are not allowed (Homburg et al. 2018). As a result, most rabbinic authorities do not usually allow either donor sperm or donor egg. But in Torah, there is no clear injunction against this. Being fruitful and multiplying was emphasized to such an extent that before the modern reproductive technology divorce was allowed if the couple was infertile just for allowing them a chance to reproduce with a different spouse. However, there is a general feeling among the Orthodox Jews against donor gametes (Homburg et al. 2018; Inhorn et al. 2017). But, many Talmudic scholars indicated that despite the controversy about donor gametes it is preferable to accept this arrangement than staying childless (Silber 2010). Some Jews in Israel accept artificial insemination by a donor (Schenker 2005). Ultra-Orthodox Jews do not want to waste any sperm, even to conduct IVF treatment, thus, they take a different way to go through this arrangement. Ultra-Orthodox Jewish couples usually use sperm of non-Jewish donors because the prohibition of wasting sperm is not applicable to non-Jewish

men. In addition, the sperm of non-Jewish men eliminates the tension of any kind of incest that could happen in the future (Bundren 2006; Homburg et al. 2018).

Ultra-Orthodox couples in Israel have recently started buying sperm of donors from other countries using the internet. Women who are homosexual or single also prefer international sperm banks to get donor sperm. In Israel, donating egg is deemed more complicated than donating sperm as in Judaism mother's Jewishness defines the child's Jewishness. Egg donation separates gestational parent from genetic parent and this way creates the problem of a Jewish child's identity and inheritance. According to most Rabbis, womb is the conclusive factor in transferring Jewishness (Homburg et al. 2018). Thus, the religious importance of the donor of the egg can be lessened. Some Rabbis suggest choosing egg donor outside of Jewish religion to eliminate the possibility of unintended incest in future. However, some Jewish scholars emphasize that the egg as well as the womb should be of Jewish women to confirm the Jewishness of an offspring. The donation of egg is legal still it is rare in Israel (Inhorn et al. 2017).

Surrogacy

Judaism does not forbid surrogacy. The child born through this arrangement needs to be kept in the guardianship of the sperm owner. The child should belong to the owner of sperm and the owner of womb. The concept of surrogacy was first found in Old Testament, Genesis 16, where it was mentioned that as Sarai was unable to bear children she asked her husband Abram to have a child with their maid Hagar and thus Abram's son Ismael was born (Benshushan and Schenker 1997; Silber 2010). The simpler form of surrogacy is "partial surrogacy" which includes insemination of surrogate mother with the "commissioning" father's sperm. On the contrary, medical attention is needed for conducting full surrogacy. Partial surrogacy can be done in a private arrangement but gestational surrogacy requires medical attention. Under the State of Israel Knesset Law, 1995, the Approving Commission has to approve the case of surrogacy (Benshushan and Schenker 1997). This committee permits full surrogacy only when the gametes are provided by Commissioning Couple (CC). The committee allows surrogacy with ovum donation in some special cases. The child will be considered illegitimate if the surrogate mother is married. As in Judaism, the offspring is determined by the religion of the mother, surrogate mother must have same religious faith as CC (Schenker 2005). In Israel, surrogacy is not permitted for homosexual couples. They have to seek surrogate mothers from outside of the country if they wish to procreate (Westreich 2016).

Gender Pre-selection

As per Jewish Law, a man must have two progenies—one male and one female. According to Beit Shamai and Beit Hillel schools, to fulfil the procreation obligation, a person must have minimum one son. Thus, in Judaism, sex selection is allowed even for non-medical grounds (Silber 2010; Schenker 2005).

Cryopreservation

In IVF programs, preserving pre-embryos is a common exercise. This procedure can be questioned as it hinders the growth and development of the pre-embryo. This procedure annuls the right of the pre-embryo father. The issue is simpler for the mother as the embryo is shifted into her womb. Judaism permits cryopreservation only under certain conditions that proper procedures will be followed to preserve the identity of the father (Schenker 2005).

Posthumous Reproduction

Judaism supports posthumous reproduction (Schenker 2005). The Old Testament (Deuteronomy 5:25) states that the brother or the closest relative of a deceased person should marry his widow and the first son born of that marriage should be named after a departed husband of the woman. If the brother of the deceased does not agree to tie his knot with the widow, he is being humiliated at a public ceremony as he is not cooperating in the process of the establishment of the heirs of this departed brother. It was the most pragmatic way of establishing a genetic heir thousand years ago. When the woman passes away, the use of frozen embryos is more complicated because of the involvement of another woman as the surrogate. According to Israeli law, there is no need of consent to transfer deceased person's sperm to his spouse within a year of the death. But if the wife is dead, then the frozen embryos cannot be used (Inhorn et al. 2017).

Multiple Pregnancy Reduction

According to the ethics of Halakha, abortion on demand is repulsive but if there is a threat to the mother's life because of the pregnancy then it is allowed (Schenker 2005). But if the fetuses are in danger, then all of the fetuses are victims as well as offenders at the same time. A legal analogy is searched to tackle this kind of situation. Rabbis explained that in situations where everyone's life in a group is threatened and sacrificing one can save the others then that should be done. This decision can be applied to situations of multiple pregnancy reduction. Aborting multiple fetuses might be allowed if those fetuses are already condemned to death. This is a medical question of how many fetuses should be destroyed and the decision needs to be taken by doctors. Doctors should delimit the least count of fetuses to be destroyed so that the well-being of the rest of the fetuses and the mother can be ensured (Schenker 2000).

Cloning

In Judaism, human cloning is allowed in certain situations. This permission is mostly determined by sacred writings and ancient traditions. Some scholars of Judaism justify their stance by the stories mentioned in Genesis. For meeting

human needs, people should take care of what they have made and take it forward (Güvercin and Munir 2017). According to these scholars, although cloning raises the possibility of violating the respect of human beings, this reason should not obstruct this necessary procedure. However, some Jewish scholars think that human cloning can hurt the family as it changes the roles of relationships between spouses which define their duties to each other and it can also change the pattern of inheritance. The statement of Torah as well as commentaries of the Rabbis emphasize that the life of human beings must be preserved. If cloning is required to fulfill this duty then this procedure is supported in Judaism. Moreover, in Judaism, the child's religiosity is associated with the mother's religiosity and his/her status in the tribe is determined by the father's status in the tribe. Thus, a child should have both the father and the mother. Still, many Jewish thinkers consider cloning to be better than third-party donation (Schenker 2005).

Single Parenthood and Homosexual Parents

Same-sex marriage and homosexuality is forbidden in Judaism. Thus, there are restrictions on using ARTs in certain situations like using for single parents and same-sex couples in the Jewish state of Israel (Westreich 2016).

The Christian Response to Assisted Reproductive Technologies

The two main groups of Christianity are Catholicism and Protestantism. There are many denominations among the Protestants, but they have various core beliefs as well. Both Roman Catholics and Protestants have opposed IVF and dismissed Reproductive Technologies as a process of conception (Sariles 2017). Any method that meddles with the usual course of procreation from birth control to IVF is rejected by Roman Catholics. On the other hand, although Protestants are hesitant about IVF, they are more open about the idea of accepting IVF as a method of treating infertility (Schenker 2005). The following sections discuss the major aspects of ARTs from the Roman Catholic and Protestants perspectives.

Roman Catholic Response to IVF

Roman Catholics are very conservative with regard to IVF. They believe that all kinds of human lives must be dealt with proper respect from the inception of the pregnancy. The Vatican Church clearly states that procreation through assistance from outside is not allowed (Güvercin and Munir 2017). According to the declaration of Pope Pius XII in 1956, IVF should never be allowed because it is beyond morality and laws (Sallam and Sallam 2016; Bundren 2006). The Church argues that IVF disassociates reproduction from sexual relations between husband and wife. The Roman Catholic Church claims that the only suitable arrangement for procreation is marriage. The Church argues that the right of life even from conception is fundamental, procreation cannot be separated from the marital union of parents and

an offspring needs to be the outcome of marital union (Schenker 2005). Any process that breaks the link between intercourse and procreation is not natural. The Church wants human beings to be aware of and have proper respect for their responsibilities (Sariles 2017). Nonetheless, nations that are heavily influenced by Catholicism have different policies and responses towards IVF (Chavkin 2006).

Protestant Response to IVF

Protestants believe intercourse and reproduction to be independent of each other. Protestants lean towards the whole relationship between spouses than the act of procreation. Thus, IVF should not be so much of a problem for the Protestants (Best et al. 2019). However, there is opposition to IVF among Protestants. In the 1970s, Paul Ramsey established foundations of Protestant response regarding this matter. He predicted that IVF would damage family and marriage. His statement was supported by Lass Bass who addressed the procreation of humans in laboratories to be no longer a human and procreation taking such measures would slowly destroy parenthood (Sariles 2017; Best et al. 2019). Protestantism prefers adoption rather than IVF as adoption promotes Christian parenthood traditions. As there are many denominations among Protestants, it is natural that there are different positions regarding ARTs among them. Every denomination except Christian Science allows ARTs only if husband's or wife's gametes are being used and embryos are not being wasted. Christian Science does not allow IVF for the usage of clinical actions and drugs but it does not oppose AIH (Schenker 2005; Chavkin 2006).

Gamete Donation

Christianity does not approve gamete donation (Gresham 2020). According to Christianity, artificial insemination by using donor sperm and egg donation violates God's ideal for a family as the child birth takes place outside the marriage. A child born through these means is not related to its parents (Mitchell 2003). Moreover, third-party donation violates the biblical ideal of monogamy and opens door to an array of social and legal issues. In addition, the way sperm for artificial insemination is harvested is also a matter of concern (Francis 2000). Masturbation is the method to collect spermatozoa to conduct these treatments that destroys and denies natural intercourse.

Surrogacy

Christianity does not allow surrogacy. This technique can violate the goal of marriage as it shares the result of marital intimacy with a third party in a premeditated manner (Schenker 2005). Moreover, arrangements like this can raise several legal and critical issues. For example, this arrangement separates a child from its birth mother and breaks the bond between mother and child which was created during pregnancy. Surrogacy may minimize the importance of family bonds and reduce the individuals to property or commodity (Francis 2000). The most objectionable form of surrogacy is commercial

surrogacy where a woman carries a couple's child in return for money which reduces child bearing and children to a form of barter. It turns child bearing almost into the commercial relationship. Even altruistic surrogacy causes problems (Mitchell 2003).

Gender Pre-selection

Christianity does not allow the termination of embryos. According to Christianity, especially the Catholic Church, human life starts at conception and so usage or destruction of pre-embryos discount human life. Therefore, Christianity forbids gender selection. Gender pre-selection is likely to destroy embryos in the early stage of conception. When the embryo of a certain gender is selected, embryos of the other gender will be destroyed (Schenker 2000, 2005).

Cryopreservation

Christianity does not accept discarding fetuses even in the early stage of conception because it does not give the destroyed fetuses any chance to exist in the future (Schenker 2005; Francis 2000). Bible asserts that from the starting point of conception the purity of life should be preserved. Therefore, it is a matter of consideration if cryopreservation violates the sanctity of an embryo because this procedure can lead to harm to the embryo due to any clinician mistake. Tanks, where embryos are preserved, can be problematic too (Francis 2000).

Multiple Pregnancy Reduction

Standpoints of various Christian Churches were not found regarding this matter. In 1869, Pope Francis declared that there is no distinction between animated and unanimated fetuses. He removed this distinction from mandating punishment for abortion at any stage of pregnancy. Multi-fetal pregnancy reduction is as sinful as abortion (Schenker 2005).

Cloning

Catholic scholars strongly oppose the cloning of human beings. According to Roman Catholicism, cloning is a violation of moral law as it violates the nobility of reproduction and marriage (Abou Abdallah 2005). Cloning involves the destruction and manipulation of human embryos which is morally unacceptable. Protestant Churches also take human cloning negatively in general. They present the same arguments as Roman Catholics (Francis 2000).

Single Parenthood and Homosexual Parents

According to Christianity, any allowed procedure of artificial reproduction must be utilized by the heterosexual married couple only. These services are not for single women, homosexuals, or unmarried couples (Schenker 2005; Francis 2000).

Islamic Response to Assisted Reproductive Technologies

Islam encourages the treatment of infertility to ensure an uninterrupted process of procreation. Islam encourages Muslims to get necessary treatments that include ARTs for having their children. However, it is a fundamental requirement of Islam to preserve the unadulterated purity of lineage (Harrison 2014; Chamsi-Pasha and Albar 2015). The heart of Islamic religion is the Sharia law that defines the path in which God wishes human beings to lead their lives. But, the primary sources of Sharia do not mention assisted reproduction. When ART was introduced, Islamic scholars of both denominations, Shia and Sunni, collectively and individually proclaimed religious decrees on ARTs. But, the decrees and rulings regarding ARTs can be quite divergent (Farid and Schotsmans 2014). The Sunni Muslim scholars declared a *fatwa* against mixing of genes, embryo or gamete donation, as well as surrogacy. However, Shi'a scholars are somewhat different as many of them have permitted the involvement of a third party in the procreation process (Serour 2013). Major aspects of ARTs in Sunni and Shia Islam are discussed below.

Gamete Donation

If ARTs are required as a necessary line of treatment for an infertile couple, they are not only permitted but also encouraged as they help to preserve human kind. The procedure of IVF-embryo transfer is acceptable only between married partners (Serour and Dickens 2001). The Sunni religious scholars are absolutely against the involvement of third-party donation in IVF procedure because they are concerned about the aspects of lack of biological descent, potential incest, violation of the marital contract between husband and wife, and breach of Islamic law of inheritance (Farid and Schotsmans 2014; Khan and Konje 2019; Padela et al. 2020; Saniei and Kargar 2021). However, Sunni religious scholars permit artificial insemination with a husband's sperm. Any third-party donation of sperm, egg, uterus, or embryo is forbidden and a child born through these means will be considered illegitimate (Gürtin et al. 2015). Though many Shi'a clerics support the Sunni view of forbidding third-party donation, Ayatollah Ali Hussein Khamenei, the supreme leader of Iran, proclaimed a *fatwa* allowing third-party donation with some conditions (Farid and Schotsmans 2014; Tremayne and Akhondi 2016). According to his *fatwa*, third-party donation is permissible and the children born through these means cannot be considered illegitimate (Clarke 2007; Larijani and Zahedi 2007; Abbasi-Shavazi et al. 2008). The temporary marriage—*mu'ta* marriage, which is not allowed in Sunni Islam, also offers flexibility in third-party donation (Haeri 2014). But, there are divergent opinions among Shi'a scholars regarding third-party donation. Ayatollah Ali Hussein Khamenei decreed a *fatwa* declaring that donor's anonymity is not possible. Some Shi'a religious scholars propose temporary marriage as a solution to avoid the question of adultery (Khan and Konje 2019; Bou Assi et al. 2019). As Islam allows polygamy of men, husband can participate in a temporary marriage with the egg donor. In the case of this kind of arrangement, the egg donor is the legal mother of the child and can inherit from her (Saniei and Kargar 2021).

Surrogacy

Sunni scholars prohibit surrogacy. In Shi'a Islam, gestational surrogacy is accepted. Shi'a Muslims take the advantage of temporary marriage (*mut'a*) to legalize/formalize these practices (Clarke 2008). If a Muslim unwedded woman agrees to donate her gamete to a barren couple in return for a certain amount of money, she needs to get into a marriage contract with the man. The marriage is dissolved spontaneously after a necessary amount of time. But, this arrangement is not applicable to sperm donors as a wife cannot have a second husband (Serour 2013).

Gender Pre-selection

In 2007, Islamic World League proclaimed a *fatwa* prohibiting sex selection for social causes. It is permitted only for therapeutic causes (Chamsi-Pasha and Albar 2015). However, sex selection is not permitted in the case of the first pregnancy. If a couple has either two boys or two girls already, only then they can seek this service of sex selection (Schenker 2005).

Cryopreservation

Freezing techniques or cryopreservation means storing the embryo for the future so that it can be returned to the womb of the mother in case she and her husband want a child. Generally, Muslim scholars permit this procedure of freezing embryos only for the future use of the couple who have produced embryos. Going to fertility treatment requires medicines that may have side effects. Cryopreservation can be helpful as it spares the trouble of repeating the fertility treatment and the same medications all over again. The scholars allow freezing sperms, ova, and pre-embryos. If the marriage is no longer valid then the wife is not allowed to become pregnant with those frozen embryos which were produced during the time of marriage (Sallam and Sallam 2016). A precise testimonial should be made so that commercialism and blending or mixture can be avoided (Chamsi-Pasha and Albar 2015).

Posthumous Reproduction

Islam recommends the practice of ARTs only for married partners. The marital contract terminates when they get a divorce or one of the spouses dies. ART is not allowed for a widow or an ex-wife to use the preserved sperm of a dead husband (Nordin 2012). It is an illegal act as the contract of marriage becomes invalid with the demise of the husband (Chamsi-Pasha and Albar 2015).

Multiple Pregnancy Reduction

Multi-fetal pregnancy reduction is allowed in Islam only under certain conditions. This procedure is allowed only if the pregnancy threatens the mother's survival. If the mother's life is in jeopardy, then it is allowed (Serour 2013). In some countries,

the number of embryos to be implanted in a woman's womb is fixed. Termination of pregnancy is allowed when the mother's survival is threatened. It is also permissible when the prospect of fetal viability is compromised. Multiple pregnancies higher than twins can present complications in pregnancy and can be a threat to the mother and the fetus as well. In this case, the fetuses are aborted immediately (Sallam and Sallam 2016).

Cloning

Islam prohibits reproductive cloning but therapeutic cloning is allowed (Sallam and Sallam 2016). The Islamic Fiqh Academy (IFA) prohibits cloning but it considers cloning acceptable for medical research for the benefit of mankind (Khan and Konje 2019). Most Islamic thinkers oppose reproductive cloning because it affects kinship which is key concept of Islamic law. Because a child created through cloning lacks either a father or a mother, it results in a lack of kinship. However, Islam does not restrict medical research as it is considered as a religious obligation to find infertility treatment. However, the result of research must be examined by Sharia experts (Serour and Dickens 2001).

Post-menopausal Pregnancy

Pregnancy after menopause is allowed in Islam if the owners of the preserved embryos are still married. But, pregnancies after menopause by donated oocytes are not allowed (Khan and Konje 2019).

Single Parenthood and Homosexual Parents

Islamic law strictly prohibits the use of ARTs in self-imposed single fatherhood or motherhood or homosexual parenthood (Chamsi-Pasha and Albar 2015).

Comparison

Religious traditions and beliefs may be decisive when infertile men and women consider the ARTs for having their children. Moreover, religions have impact on law-making and other regulations in a country. The religious views regarding ARTs are summarized in Table 1. The table provides a very simplified version of religious views on the application of ARTs, because within a single religion different sects have different opinions and interpretations regarding ARTs and have reached diverse decisions.

The Roman Catholic Church opposes IVF and other forms of assisted reproduction for procreation since they separate the procreative goal of marital sex from the goal of uniting a married couple. Another reason for the disapproval of IVF by the Catholic Church is that some embryos are destroyed, which are believed to be the beginning of life. Among the Protestant Churches, there is no common statement on

Table 1 Judaism, Christianity, and Islam ART: permissions (Y) and prohibitions (N)

Category	Judaism										Christianity			Islam		Shi'a		
	Ultra-Orthodox										Orthodox	Conservative	Reformed	Catholic	Protestant		Sunni	Shi'a
	Y	Y (non-Jewish donor)	Y	Y	Y	Y	Y	Y	Y	Y (except Christian Science denomination)								
IVF	Y	Y (non-Jewish donor)	Y	Y	Y	Y	Y	Y	N	N	Y (except Christian Science denomination)	Y	Y	Y	Y			
Gamete donation	Y	Y (non-Jewish donor)	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	Y			
Surrogacy	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	Y			
Gender pre-selection	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y (only for therapeutic reasons)	Y (only for therapeutic reasons)	Y	Y (only for therapeutic reasons)			
Cryopreservation	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y			
Posthumous reproduction	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N			
Multiple pregnancy reduction	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y			
Cloning	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y (only for therapeutic reasons)	Y (only for therapeutic reasons)	Y	Y (only for therapeutic reasons)			
Post-menopausal pregnancy	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y			
Single and homosexual parenthood	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N			
ARTs for research purpose	Y	Y	Y	Y	Y	Y	Y	Y	N	N	X	Y	Y	Y	Y			

ARTs. However, in most Protestant-dominated countries, ARTs are no longer disputed, but some of the applications of ARTs are controversial. For instance, many Protestant Churches have expressed their profound concern at offering fertility treatments to single women and gay couples.

Jewish Religion encourages to have children. Therefore, ARTs are allowed, and in Israel, those are encouraged. However, certain aspects of assisted reproduction are still controversial among Orthodox Jews. For example, third-party donation, particularly sperm, egg, and embryo donation, is prohibited.

Islam gives importance on marriage, family, and procreation. Thus, Islam allows ARTs with certain conditions. However, both Sunni and Shi'a are divided over the application of ARTs in procreation. Sunni Islam allows all forms of assisted reproduction as long as the sperm and oocyte are those of the husband and his wife and prohibits any involvement of third party in the conception. Sperm, egg, and embryo donation is not allowed. Sunni Muslims also prohibit surrogacy. Most of the Shi'a Muslim leaders, particularly Iranian and Lebanese, permit third-party donation, as they do not consider third-party donation in the procreation is adultery, which is one of the major reasons for Sunni Muslims for the rejection of gamete and embryo donation. Shi'a Muslims also approve gestational surrogacy using IVF.

Conclusion

Religion has a big influence on how people feel about assisted reproduction, and different religions have had varying reactions to it. These opinions range from complete acceptance to complete condemnation of all assisted reproductive techniques, with many shades in between. Table 1 outlines the several assisted reproductive procedures that different religions allow. As long as assisted reproduction advances, people, communities, and countries will continue to debate the subject.

Each of these monotheistic religions offers its unique historical, personal, and ethical frameworks to the argument. Specifically, Catholicism views ART through its anti-contraception policy and fundamental belief that life begins at conception; Islam views ART through its pronatalist stance, which promotes the Muslim nation's expansion, and Judaism views ART through its Biblical imperative to be fruitful and multiply, compounded by historic anti-Semitism and the slaughter of its people. Even though each religion has varied degrees of divergent belief systems, they all come to the same conclusion: (1) infertility causes great human misery and (2) the nature and science of reproduction are profoundly linked with God's purpose for future generations. Even within each faith, there is disagreement on how to alleviate suffering, such as accepting infertility as God's will versus allowing scientific remedies, and about which technologies best promote God's design for procreation.

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